

REMARKS

Favorable reconsideration and allowance of this application are requested.

Following entry of the present Amendment, claims 1, 3-36 and 62-64 will remain pending in this application.

The specification has been revised at appropriate locations therein so as to address the informalities noted by the Examiner in paragraph 3 of the subject Official Action.

The preamble expression of claim 8 has been changed so it is now consistent with the claim from which it depends.

Claims 4 and 20 now expressly state that the material (B) is in fact the epoxy group containing material.

The specification at page 6, line 15 bridging page 7, line 5 has been revised so as to clarify that the aromatic tertiary amine compounds may be heterocyclic amine group containing materials. The support for such revision is original claims 8 and 24 which, of course, constitute their own "disclosure".

The ambiguities of claims 10 and 14 are believed to have been addressed by the amendment instructions thereto.

Accordingly, it is believed that all issues and objections raised against the specification and the claims under 35 USC §112 have been overcome.

I. Request for Consideration of Previously-Submitted Reference

The Examiner has indicated that USP 4,383,103 to Kluger was not considered due solely to the fact that the fee set forth in 37 CFR §1.17(p). Such fee is now being

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submitted. Hence, consideration of the Kluger patent is solicited, for which purpose a fresh form PTO-1449 is submitted for the Examiner's convenience.

II. Response to Art Based Rejections

The only issue remaining to be addressed in this application is the Examiner's rejection of claims 1, 4-10, 14-18, 20,26, 30-36, 62 and 64, under 35 USC §102(e) as allegedly anticipated by, or under 35 USC §103(a) as allegedly obvious from, Maruyama et al (USP 6,420,072). Applicants suggest that Maruyama et al is neither anticipatory nor renders obvious the presently claimed invention.

Applicants note that the polyelectrolytic gel of Maruyama et al is derived from radical or cationic polymerization reaction of vinyl groups. Specifically, the cross-linking reaction occurs by virtue of the cross-linking agent, namely the vinyl group. In Maruyama et al, the amine or nitrogen containing cationic function (protonated amine) is simply just a chemical group attached to the vinyl compound. The cross-linking reaction to form a gel thus occurs, according to Marayuma et al, by virtue of the vinyl groups (throughout most of examples in the patent) or by virtue of hydroxy groups with diisocyanate (example 42).

In direct contrast, in accordance with the present invention, the pyridine-containing polymer, for example, reacts with the epoxy unit to form the cross-linked gel structure. Significantly, the nitrogen in the pyridine reacts with the epoxy compound so as to convert it to a N-oxide structure and thereby cross-link the polymer chains.

Marayuma et al is a polyelectrolytic gel containing amine or nitrogen containing cationic function (protonated amine) units in the polymer chain. However, the nitrogen on pyridine units according to the present applicants' invention is a reaction center to cross-link the polymer chains and change them into N-oxide structures after the cross-linking reaction.

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The significant chemical differences between Marayuma et al and the present claimed invention (using poly(vinyl pyridine) or its copolymer with styrene units containing pyridine N-oxide units as an example) is summarized in the Table below:

	<u>Patent US 6,420,072 B1</u>	<u>Application SN 09/986,459</u>
Chemical structure of gel polymer	Crosslinked polyacrylate containing amine or protonated amine unit	Crosslinked poly(vinyl pyridine) or its copolymer with styrene unit containing pyridine N-oxide unit.
Crosslinking site	Difunctional double bond or alcohol with diisocyanate unit	Nitrogen on pyridine with epoxy unit
Structure of nitrogen containing compound in the polymer	NR_3 or $\text{R}_3\text{NH}^+\text{X}^-$	$\text{C}_5\text{H}_5\text{N-O-R-O-NC}_5\text{H}_5$

As can be seen from the above, therefor, Marayuma et al cannot anticipate or render obvious the present invention as claimed. Withdrawal of the art-based rejection advanced thereagainst is therefore requested.

Every effort has been made to advance prosecution of this application to allowance. Therefore, in view of the amendments and remarks presented herewith, it is believed that this application is in condition from prompt allowance and Official Notice to that effect is solicited.

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An early and favorable reply on the merits is awaited.

Respectfully submitted,

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